

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

LOUISVILLE GAS AND ELECTRIC COMPANY)	
)	
)	CASE NO. 92-318
)	
)	
ALLEGED FAILURE TO COMPLY WITH)	
COMMISSION REGULATIONS 807 KAR 5:006)	
AND 807 KAR 5:041)	

O R D E R

Louisville Gas and Electric Company ("LG&E"), a Kentucky corporation engaged in the generation, transmission and distribution of electricity to the public for compensation for lights, heat, power, and other uses, is a utility subject to Commission jurisdiction. KRS 278.010.

KRS 278.280(2) directs the Commission to prescribe rules and regulations for the performance of services by utilities. Pursuant to this statutory directive, the Commission promulgated 807 KAR 5:006, Section 24, which requires utilities to adopt and execute a safety program and 807 KAR 5:041, Section 3, which requires electric utilities to maintain their plant and facilities in accordance with the standards of the National Electrical Safety Code, 1990 Edition ("1990 NESC").

Commission Staff has submitted to the Commission an Electrical Utility Accident Investigation Report dated July 8, 1992, appended hereto, which alleges that:

On April 28, 1992, three employees of LG&E were removing a pole and one span of a 7,200 volt primary, neutral conductors and association equipment at 561 Blankenbaker Lane, Louisville, Kentucky. During the removal work, the boom of the digger truck contacted an energized conductor, resulting in injury to one employee. The following probable violations were noted:

1. 807 KAR 5:006, Section 24, LG&E Safety Manual Electrical 5.21 and 807 KAR 5:041, Section 3(1), 1990 NESC, Section 42 (422A(2)) arising from an employee not wearing protective rubber gloves or sleeves while preparing a guy wire;

2. 807 KAR 5:041, Section 3(1), 1990 NESC, Section 42 (421A(1) and (2)) arising from the line working foreman failing to perform his responsibility for the safety and safe work conduct of employees under his supervision;

3. 807 KAR 5:006, Section 24, LG&E Safety Manual, Electrical 5.27(f) arising from the absence of rubber protection equipment on the energized line; and

4. 807 KAR 5:006, Section 24, LG&E Grounding Procedures dated February 6, 1981 arising from the absence of a grounding cable on the digger truck.

The Commission, on its own motion, HEREBY ORDERS that:

1. LG&E shall submit to the Commission within 20 days of the date of this Order a written response to the allegations contained in the Electrical Utility Accident Investigation Report.

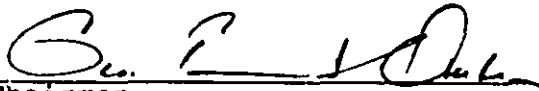
2. LG&E shall appear on September 2, 1992, at 10:00 a.m., Eastern Daylight Time, in Hearing Room 1 of the Commission's

offices at 730 Schenkel Lane, Frankfort, Kentucky, for the purposes of presenting evidence concerning the incident which is the subject of the Electrical Utility Accident Investigation Report, specifically the alleged violations of Commission regulations 807 KAR 5:006, Section 24 and 807 KAR 5:041, Section 3, and of showing cause, if any it can, why it should not be subjected to the penalties of KRS 278.990 for its alleged failure to comply with the aforementioned Commission regulations.

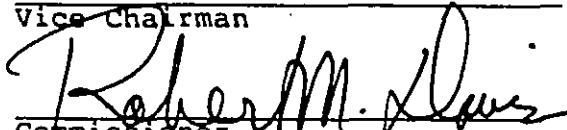
3. The Electrical Utility Accident Investigation Report dated July 8, 1992 is hereby made a part of the record of this case.

Done at Frankfort, Kentucky, this 13th day of August, 1992.

PUBLIC SERVICE COMMISSION


Chairman


Vice Chairman


Commissioner

ATTEST:


Executive Director

M E M O R A N D U M

TO: Wayne Bates, Manager *WB*
Communications and Electric Branch

FROM: Elie El-Rouaiheb, Engineer *EE*
Electric Branch

DATE: July 8, 1992

SUBJECT: Accident Involving Louisville Gas and Electric Company

Attached please find the report on the investigation of the accident in which Mr. Lloyd Neal Purvis was injured.

EEL-R:jsb

Attachments: A. Electric Utility Accident Investigation
B. LG&E's Accident Report
C. Photographs of Accident Site

ELECTRICAL UTILITY ACCIDENT INVESTIGATION

DATE OF THIS REPORT 7-8-92 SUBMITTED BY Elie El-Rouaiheb
NAME OF UTILITY Louisville Gas and Electric Company ("LG&E")
ACCIDENT REPORTED BY Patrick S. Ryan
DATE AND TIME ACCIDENT OCCURRED 4-28-92 at 9:28 A.M.
DATE & TIME UTILITY LEARNED OF ACCIDENT 4-28-92 at 9:28 A.M.
DATE & TIME ACCIDENT REPORTED 4-28-92 at 10:51 A.M.
DATE OF ACCIDENT INVESTIGATION 4-29-92
DATE SUMMARY WRITTEN REPORT WAS RECEIVED FROM UTILITY Accident Report
was faxed May 1, 1992 and the Accident Report was received May 4,
1992.

PERSONS ASSISTING IN THE INVESTIGATION Ron Hasch and Don Black of
LG&E.

NAME OF VICTIM(S) 1. Lloyd Neal Purvis SEX M AGE 27
FATAL No NAME OF EMPLOYER: Louisville Gas and Electric Co.
INJURIES Burns to both hands, back and left foot.

2. _____ SEX _____ AGE _____
FATAL _____ NAME OF EMPLOYER: _____
INJURIES _____

3. _____ SEX _____ AGE _____
FATAL _____ NAME OF EMPLOYER: _____
INJURIES _____

ELECTRICAL UTILITY ACCIDENT INVESTIGATION (Continued)

LOCATION OF ACCIDENT SITE 561 Blankenbaker Lane, Louisville,
Kentucky.

DESCRIPTION OF ACCIDENT Three employees of LG&E were dispatched to
remove a pole and one span of 7,200 volt primary, neutral conductors,
and associated equipment. While the associated equipment was being
moved the boom of the digger truck used on this job came into contact
with a primary conductor line. Mr. Lloyd Neal Purvis was standing on
the ground preparing a guy wire and the cable he was working with was
on the digger truck. He was injured when the boom contacted the
primary line, energizing the cable. No protective rubber equipment
was installed on the energized electric line, nor was Mr. Purvis, who
was injured, wearing rubber gloves.

SOURCE OF INFORMATION Don Black of LG&E, LG&E's report and an onsite
investigation.

PROBABLE VIOLATIONS OF COMMISSION REGULATIONS There were four prob-
able violations of Commission regulations involved in this accident:

1. Mr. Purvis was not wearing protective rubber gloves or sleeves
while preparing the guy wire, resulting in a probable violation of
807 KAR 5:041, Section 3(1), Acceptable Standards 1990 NESC, Section
42(422A (2)); and 807 KAR 5:006, Section 24, LG&E's Safety Manual,
Electrical 5.21.
2. Mr. Larry Woods, line working foreman, in charge at the time of
the accident did not perform his specific duty of responsibility for

the safety and safe work conduct of employees under his supervision, resulting in a probable violatin of 807 KAR 5:041, Section 3(1).

Acceptable Standards 1990 NESC, Section 42(421A (1) and (2)).

3. No rubber protective equipment was installed on the energized line, resulting in a probable violation of 807 KAR 5:006, Section 24, LG&E's Safety Manual, Electrical 5.27(f).

4. The truck's grounding cable was not connected to a grounding system at the time of the accident resulting in probable violation of 807 KAR 5:006, Section 24, Grounding Procedures adopted by the Executive Safety Committee on February 6, 1981. These procedures were filed with this Commission on June 10, 1992.

RECOMMENDATIONS The Commission should consider action pursuant to KRS 278.990.

CORRECTIVE ACTION None

LINE CLEARANCES

	<u>As Measured</u>	<u>Minimum Allowed by NESC</u>
A. AT POINT OF ACCIDENT		
Phase conductor to ground elevation:	<u>32'-4"</u>	<u>18'-6"</u>
Neutral conductor to ground elevation:	<u>29'-7"</u>	<u>15'-6"</u>
Communication conductor to ground elevation:	<u>N/A</u>	<u>N/A</u>
Phase conductor to structure:	<u>N/A</u>	<u>N/A</u>
Neutral conductor to structure:	<u>N/A</u>	<u>N/A</u>
Communication conductor to structure:	<u>N/A</u>	<u>N/A</u>
B. AT LOWEST POINT OF SPAN		
Phase conductor to ground elevation:	<u>N/A</u>	<u>N/A</u>
Neutral conductor to ground elevation:	<u>N/A</u>	<u>N/A</u>
Communication conductor to ground elevation:	<u>N/A</u>	<u>N/A</u>
C. SPAN LENGTH <u>175'</u>		
Date the line or facilities were constructed: <u>1968</u>		
Voltage of line or facilities: <u>7,200</u>		
Date last inspected by utility: _____		
Utility: <u>Louisville Gas and Electric Company</u>		
Date: <u>4-29-92</u> Time <u>8:30 A.M.</u>		
Approximate temperature: <u>50 Degrees F.</u>		
Measurements made by: <u>LG&E's employee.</u>		

Submitted by: Eric P. Roussel



Louisville Gas and Electric Company
220 West Main Street
P.O. Box 32010
Louisville, Kentucky 40232

April 30, 1992

Mr. Elie El-Rouaiheb, Engineer
Kentucky Public Service Commission
730 Schenkel Lane
P.O. Box 615
Frankfort, KY 40602

RECEIVED

APR 30 1992

REG. MAIL
MAY 1 1992

RE: Incident - April 28, 1992

Dear Mr. El-Rouaiheb:

On April 28, 1992, Louisville Gas and Electric (LG&E) Digger Derrick Truck No. A-16 and a crew of three employees were dispatched to 561 Blankenbaker Lane to remove a pole and one span of 7200 volt primary and neutral conductors and associated equipment. Larry Woods, Line Working Foreman A, Donald Shipley, Lineman A and Lloyd Neal Purvis, Lineman A comprised the crew.

While removing the associated equipment, inadvertent contact was made between the boom and the primary conductor. As a result, Neal Purvis, who was working on the ground at the time, was injured. The injury occurred at approximately 9:30 a.m. Mr. Purvis was transported to University Hospital, where he remains in stable condition and is improving.

The company initiated an immediate investigation which is ongoing and incomplete. Due to Mr. Purvis' injuries, we have been unable to interview him regarding the accident. We believe that such an interview is necessary in order to finalize the investigation. We intend to expedite this process and will forward our final analysis immediately upon its completion.

Enclosed are the photographs that you requested on the day of your investigation. If we can be of further assistance in this matter, please do not hesitate to call.

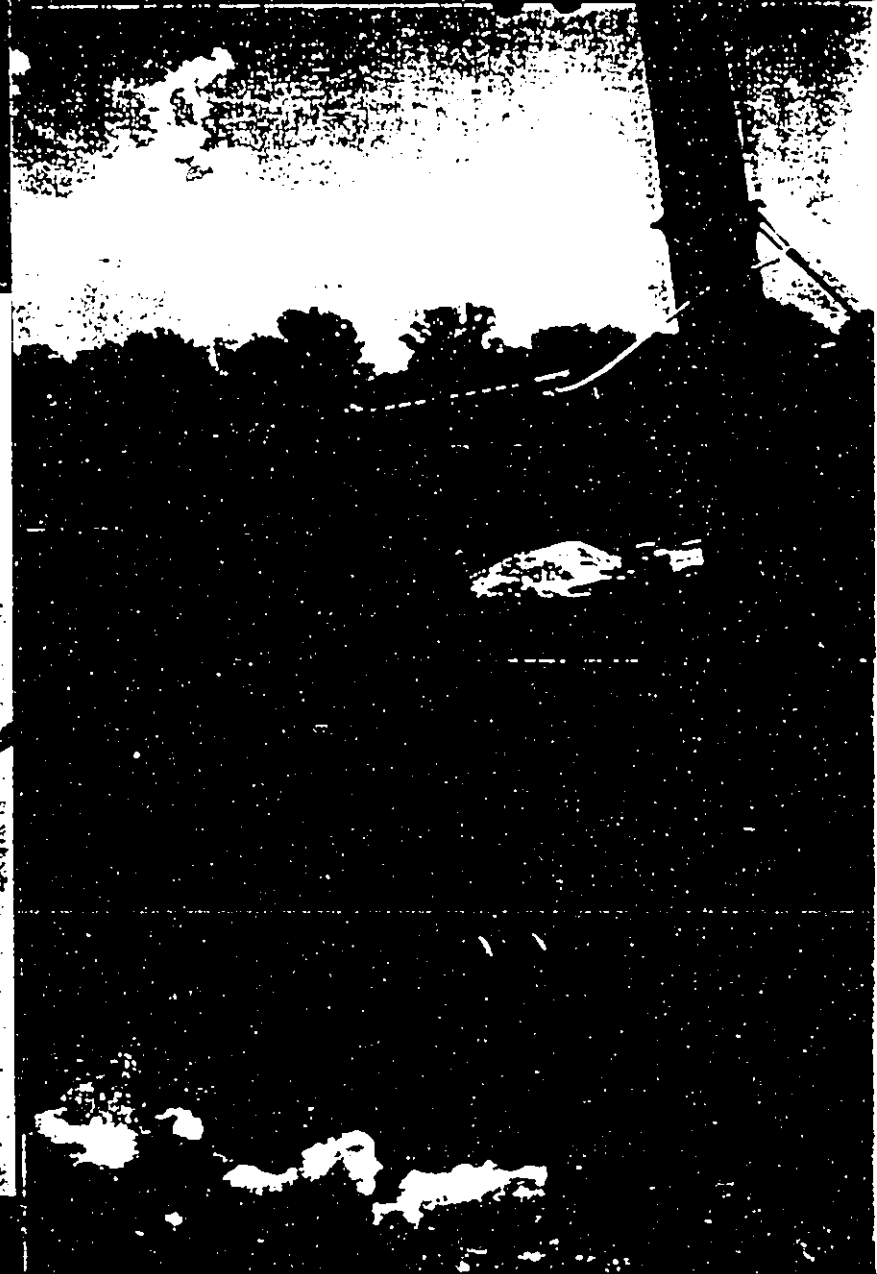
Sincerely,

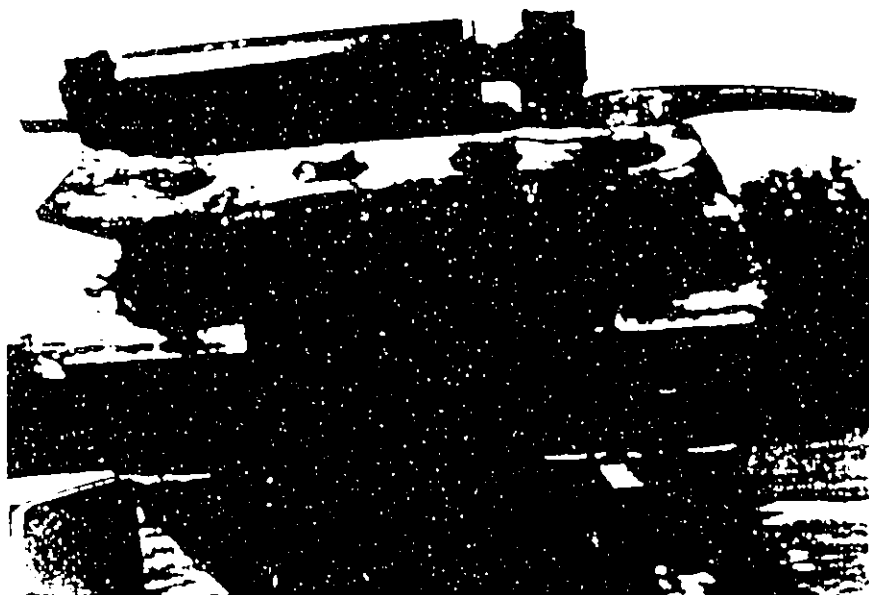
Patrick S. Ryan
Administrator, Regulatory Affairs

PSR/dh



IMAGES THROUGHOUT THIS ROLL OF FILM MAY BE ILLEGIBLE DUE TO THE POOR
CONDITION OF THE ORIGINAL RECORDS.







June 5, 1992

Mr. Elie El-Rouaiheb, Engineer
Communications and Electric Branch
Kentucky Public Service Commission
730 Schenkel Lane
P.O. Box 615
Frankfort, Kentucky 40602

Louisville Gas and Electric Company
220 West Main Street
P.O. Box 32010
Louisville, Kentucky 40232

RECEIVED

JUN 11 1992

REGISTRATION

Dear Mr. El-Rouaiheb:

Please find enclosed a security investigation report concerning an incident involving LG&E employee, Mr. Neal Purvis, that occurred on April 28, 1992. Additionally, we submit the following information for your consideration.

Mr. Purvis returned to work on Monday, June 2. In an interview conducted on Tuesday, June 1, we discovered that he was climbing into the back of the truck when the boom inadvertently contacted a 7200 volt line. No other significant findings were made as a result of this interview.

Mr. Purvis and the other members of his crew were in violation of a company policy which mandates that they ground their equipment. This policy has been administered in the past through on-the-job training and additionally, through the use of company correspondence. Beginning in 1981 a policy was established mandating that equipment be grounded (see the attached February 6, 1981 memo). If the equipment had been grounded, there is a great probability that this incident would have never occurred.

In the few weeks that have elapsed since this incident the importance of this policy has been reemphasized upon our workers through the establishment of specific grounding procedures and tailgate sessions designed to reemphasize and retrain our workforce regarding this issue. Attached are documents entitled "Grounding Procedures When Working Near Energized Conductors or Equipment" and "Tailgate Outline For Vehicle Grounding Procedures" which were used during the retraining sessions.

The mechanisms to prevent this incident had been made available and had been made known to Mr. Purvis and the other members of the crew. Judgmental errors contributed greatly to its occurrence.

If I can be of additional assistance in this matter, please let me know.

Sincerely,

Patrick S. Ryan
Administrator, Regulatory Affairs

SECURITY INVESTIGATION REPORT

Electrical Shock

92-E-0096

Type of Report

Report Number

A. L. Miller

April 28, 1992

Investigator

Date of Report

Reference:

LG&E employee received an electrical shock.

Location:

561 Blakenbaker Lane, Louisville, Ky. 40207

Case Summary:

On April 28, 1992, at approximately 0925 hours Electric Trouble Department personnel telephoned this investigator. It was reported an employee had received an electrical shock while working at 561 Blakenbaker Lane.

On April 28, 1992, at 0955 hours this investigator arrived on the scene and met with several LG&E employees. The employee Lloyd Neal Purvis, Class "A" Lineman had been transported to the hospital by helicopter by the time this investigator arrived. Two other employees Donald Shipley, Class "A" Lineman and Larry Woods working Foreman were still on the scene.

The job they were to do, consist of removing one span of line, along with hardware, a service drop and a pole. They could not immediately de-energized the 7200 volt line due to customer's request, so they removed the transformer and associated protective equipment located at the end of the line.

Mr. Donald Shipley was up in the bucket of a digger derrick truck and had completed his work and was coming down when the head of the boom inadvertently contacted the 7200 volt line dead end.

The wench cable which had just been used to remove the transformer was still over the roller on the end of the boom and the truck's grounding cable was not connected to a grounding system at the time of the incident.

ALM

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ALM

Electrical Shock (92-E-0096)

Page 2

On June 3, 1992, Mr. Purvis was interviewed by Mr. L. K. Smith, Manager of East Service Center and Mr. Paul Lee, Engineering Administrator. They reported Mr. Purvis stated he was stepping upon the back of the truck to get some equipment at the time of the incident.

ALM

INTERNAL CORRESPONDENCE

TO: All Electric Distribution Personnel

FROM: Executive Safety Committee

DATE: February 6, 1981

RE: Grounding Procedures

After reviewing our present grounding procedures, the Executive Safety Committee of the Electric Distribution Department has agreed upon the following procedures. These procedures have been adapted from a memorandum issued by the Overhead Department dated December 1, 1977.

- (1) All conductors and equipment shall be treated as energized until tested and proven otherwise.
- (2) **GROUNDING PROCEDURES:**
In general, all conductors and equipment (including line trucks, bucket trucks, stringing equipment, etc.) which may become accidentally energized by direct contact with other energized lines and equipment or by induced voltages from adjacent lines or equipment shall be shorted and grounded or they shall be considered and worked as being energized at their highest nominal voltage rating.
- (3) **GROUNDING CABLE:**
Grounding cable used for temporary shorts and grounds shall be selected and sized for the anticipated fault current but in no case shall they be smaller than #2 AWG Copper or #1/0 AWG Aluminum.

Also, included for your review and compliance are Standards of the "Kentucky Occupational Safety and Health Act" (KOSHA).

The above procedures become effective immediately for all Electric Distribution operations. Anyone having any questions concerning these procedures should contact their Department Head or a member of the Executive Safety Committee.

Executive Safety Committee
Electric Distribution Department

Approved

Mr. L. D. Fischer
Superintendent, Electric Dist.

GROUNDING PROCEDURES WHEN WORKING NEAR
ENERGIZED CONDUCTORS OR EQUIPMENT

- A. When working within ten (10) feet of energized conductors or equipment, all man lift and/or material lift vehicles/equipment shall be grounded. A system ground is to be utilized when feasible. If this is not possible, a screw ground shall be used and installed to a minimum depth of four (4) feet.
- B. When working within ten (10) feet of energized conductors or equipment and no system ground is available, and conditions prevent the installation of a screw ground, all man lift and/or material lift vehicles/equipment shall be barricaded. Personnel working under such conditions shall consider the vehicle/equipment energized.
- C. When there is an obvious danger to the public, the work area shall be barricaded even though the vehicle/equipment is grounded.
- D. The vehicle/equipment shall be properly grounded before the boom leaves its stored position. The ground is NOT to be removed until after the boom has been returned to its stored position.

GROUNDING PROCEDURES WHEN WORKING NEAR
ENERGIZED CONDUCTORS OR EQUIPMENT

Employees are expected to abide by this policy. Any employee who violates this policy will be subject to disciplinary action up to and including discharge.

The fact that the company may have exercised discretion in imposing lesser discipline in the past for failure to follow proper grounding procedures should not be relied upon as any indication of how this matter will be dealt with in the future.

Accordingly, please be reminded that Work Rule 11 of the Uniform Work Rules (Serious Safety Violation) will be applied to any employee who fails to follow proper grounding procedures.

TAILGATE SCHEDULE FOR VEHICLE GROUNDING PROCEDURES

<u>DATE</u>	<u>LOC</u>	<u>AUDIENCE</u>	<u>TIME</u>	<u>INSTRUCTORS</u>
21 May 1992	ESC	Overhead/URD	7:30am	Woods, Baker
21 May 1992	BOC	Testing/Trouble Management		Hardin, Armstrong
21 May 1992	CSC	Ovhd/Undg	3:30pm	Hardin
22 May 1992	SSC	Overhead/URD	7:30am	Woods, Hardin
22 May 1992	BOC	Construction Services Management	9:30am	Hardin, Hawkins
22 May 1992	SSC	Trouble Men 1st and 2nd shift		Hardin, Armstrong
29 May 1992	CSC	Trouble Men/Lamp Men		Woods, Hardin, Armstrong
5 June 1992	Jackson St./Gas		7:45am	Dawson, Hardin
16 June 1992	BOC	Construction Services Crews		Hawkins, Hardin
___ June 1992	PB	Substation Maint		Hardin, Reynolds
26 June 1992		Make Up at Various Locations *		Task Force

* Tailgate Make-Up's are being done on a "as available" basis for Trouble Men and crews by Task Force members.

5 June 1992 Video field work completed

TAILGATE OUTLINE FOR VEHICLE GROUNDING PROCEDURES

Define vehicle, Man Lift/Equipment Lift:

Bucket trucks, Derrick bucket trucks, Digger derrick trucks, Crane trucks, Plate trucks, Cranes, Crane trucks, JLG equipment, Power Dolly, Backhoe pole setter and Bulldozer pole setter.

Define system ground:

Any ground that ties into the system neutral (a system ground would create a fault current). Note: There could be other suitable grounds other than the screw ground such as a full anchor rod to the standard depth. 1 inch anchor rods in concrete or rock eye anchors cannot be used as grounds.

Barricades should be placed at or beyond the maximum extension of the truck and auxiliary equipment that could become energized (poles, pole trailers, wire trailers, pullers, tensioners, etc.).

Rolling grounds must be used on wire trailers, tensioners and pullers when stringing and removing wire.

High voltage rubber gloves shall be worn when operation of equipment is performed while standing at ground surface.

All work must be performed using usual required safety and standard work practices.

Put work signs and traffic cones out, chock wheels and cover up lines as necessary.

ATTACHMENT C

PHOTOGRAPHS OF ACCIDENT SITE

